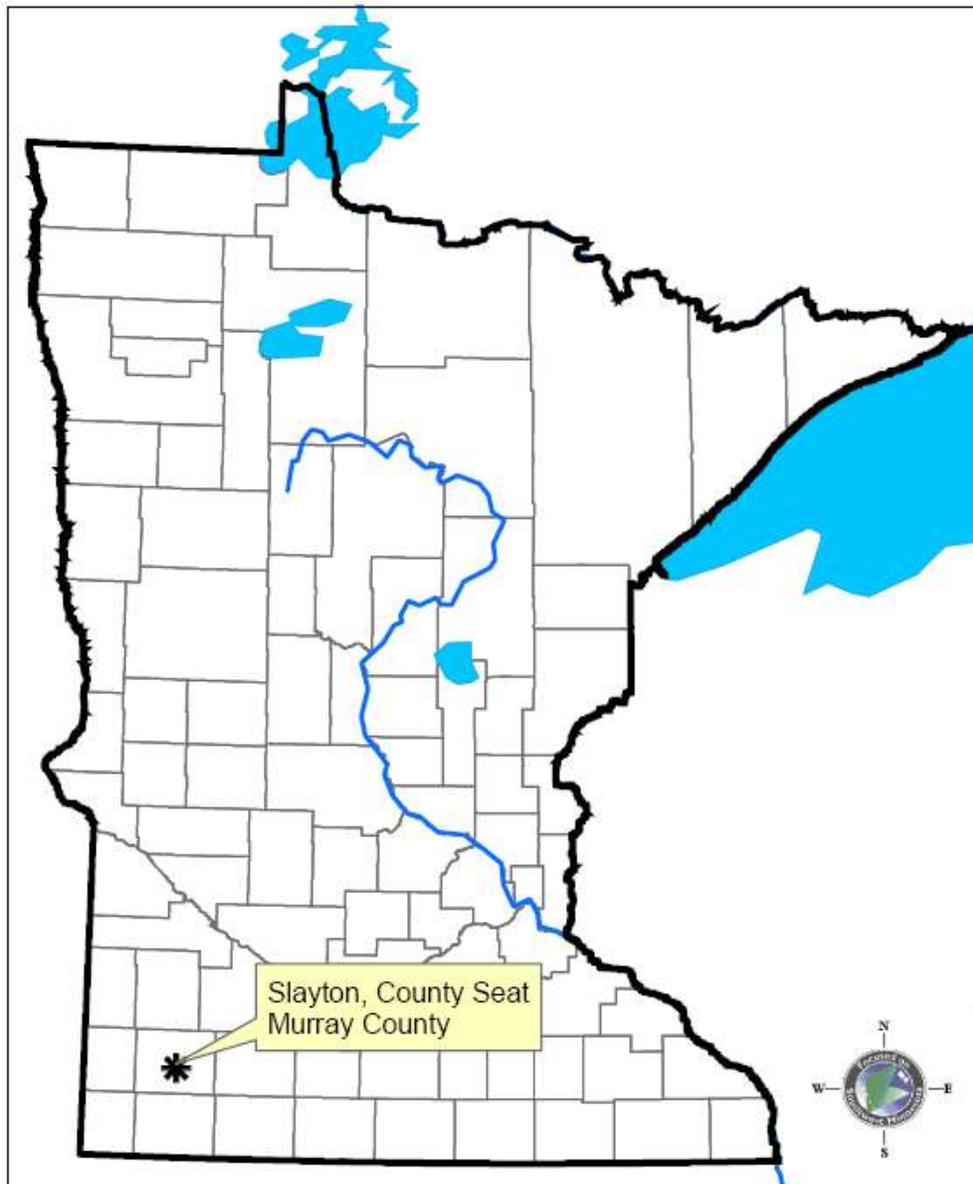


MURRAY COUNTY LOCAL WATER MANAGEMENT PLAN 2007-2017

A 10-year plan with a 5-year implementation schedule.
July 2012 Amendment

Prepared for the Murray County Local Water Management Plan Task Force
By Murray County Environmental Services and
Southwest Regional Development Commission



For additional information on water management in Murray County, Minnesota, contact:
Murray County Environmental Services Office
2500 – 28th St, PO Box 57
Slayton, MN 56172
(507) 836-1165

MURRAY COUNTY LOCAL WATER MANAGEMENT PLAN

A 10-year plan with a 5-year implementation schedule.

July 2012 Amendment

I. Table of Contents	<u>Page</u>
A. Executive Summary	1
1. Purpose & Introduction	
2. Description of Priority Concerns	
3. Summary of Goals, Actions, and Projected Costs	
4. Consistency with Local, State and Regional Plans	
5. Summary of Recommended Amendments to Other Plans and Official Controls	
B. Priority Concerns	7
1. Goals and Objectives to Address Priority Concerns	
2. Amended Priority Concerns	
C. Implementation to Address Priority Concerns.....	8
D. Implementation Schedule of Ongoing Activities.....	15
E. Appendix.....	17
1. Acronyms Used	
2. Definitions	

A. Executive Summary

Murray County is located in southwestern Minnesota, adjacent to Cottonwood, Redwood, Lyon, Pipestone, Rock, and Nobles counties. The City of Slayton is the county seat. Murray County's population in the 2010 census was 8,725 and the City of Slayton's population was 2,153.

Murray County is typical prairie environment, with variation in land elevation from 1900 feet above sea level atop the Coteau de Prairies (Buffalo Ridge) to 1250 feet in the northeast corner of the county, with nine generalized soil areas. Murray County contains the headwaters of four major watersheds, including the Cottonwood and Redwood rivers which drain into the Minnesota River, the Rock River which drains into the Missouri River basin, and the Des Moines River which eventually drains into the Mississippi River (**see Map A attached**).

A.1 Purpose & Introduction

The Murray County Water Plan is intended to identify existing and potential water issues in the context of watershed units and groundwater systems, informing specific implementation actions to achieve goals for sound hydrological management of water and related resources.

Requirements of a local water plan are set forth in current state statute (M.S. 103B.311, Subd. 4.). The plan must address management of water, effective environmental protection, and efficient resource management, and must be consistent with local water management plans prepared by counties and watershed management organizations wholly or partially within a single watershed unit or ground water systems. This Water Plan is a ten-year management plan with a five-year implementation schedule.

This is the amended third edition of a local water management plan for Murray County. On October 10, 1987, the Murray County Board of Commissioners adopted a resolution to develop a Comprehensive Local Water Plan according to Minnesota Statutes in effect at that time. This plan, developed as a multi-county project under the direction of the Redwood-Cottonwood Rivers Control Area, was adopted by the Murray County Board of Commissioners on September 4, 1990. On December 17, 1995, the Murray County Board of Commissioners adopted a resolution to update and revise the Comprehensive Local Water Plan. The Murray County Board of Commissioners adopted a resolution on September 6, 2005 to revise the current plan, adopted on April 1, 1997, according to Minnesota Statutes now in effect. Lastly, the Murray County Board adopted a resolution on November 22, 2011 to update the plan that was adopted in 2007.

Here is a summary of the major yearly accomplishments of the Water Management Plan since it was updated in 2007:

- Funded the Ecology Bus to attend each of the two high schools in the County as well as the County Fair.
- Funded the 4-H Day Camp where children learn about wetlands and wildlife.
- Sponsored the Southwest Minnesota Environmental Fair.

- Tested well water throughout the County to maintain a database that was started in 1991.
- Tested pit tiles in hog confinement buildings to make sure they are not contaminating the groundwater.

Here is a summary of the other major accomplishments of the Water Management Plan since it was updated in 2007:

- Sealed 121 unused wells throughout the County.
- Provided \$18,972.08 in funds for engineering of water retention structures within the Beaver Creek watershed.
- Received \$83,064 in a CWF grant for the Jackson/Cottonwood/Murray West Fork Des Moines River BMP Project; this project was for four sediment reduction projects.
- Received \$90,000 in a CWF grant for the Lime Creek SSTS Fix-up project; this is for the septic system upgrades to 10 hookups in the village of Lime Creek.
- Provided \$4,000 for rip-rap work done along Beaver Creek.
- Provided \$5,154.93 to small cities for upgrading their sewer treatment systems.
- Provided \$600 to the Des Moines River TMDL Project.
- Provided \$2,000 to the Rock River TMDL Project.

Below is a list of other accomplishments the Water Management Plan Board has accomplished in the last five years:

Objective A1: Promote land use practices that protect surface water quality.

- Assisted with the construction of 368 acres of CRP buffer strips, 10 acres of wetland restorations, and 1 sediment control structure in the Beaver Creek watershed.
- Assisted in the update of the Comprehensive Land Use Plan in 2007.
- Gave speeches to Murray County Central School classes 3 times per year on water quality and recycling.
- Provided technical assistance to the Lake Maria restoration project.
- Assisted in the planting of 26.9 acres of farmstead shelterbelts.
- Assisted with the installation of 5 grassed waterways and 3 sediment control structures.
- Assisted with the installation of 3,600 feet of terraces.

Murray County Water Plan Accomplishments						
Ag BMP Loans						
	Feedlots	Dollars	Septics	Dollars	Conservation Tillage	Dollars
2000	2	\$37,228	12	\$58,025	13	\$149,095
2001	4	\$65,314	9	\$45,349	25	\$399,146
2002	0	\$0	5	\$31,514	12	\$157,160
2003	0	\$0	5	\$27,515	13	\$216,856
2004	7	\$187,289	6	\$36,042	23	\$526,707
2005	3	\$125,000	2	\$14,031	16	\$287,553
2006	6	\$193,693	3	\$16,186	19	\$313,750
2007	4	\$140,131	0	\$0	15	\$352,143
2008	3	\$67,683	0	\$0	5	\$155,500
2009	8	\$235,598	0	\$0	6	\$167,269
2010	2	\$62,000	0	\$0	9	\$232,240
2011	7	\$223,778	0	\$0	8	\$138,466
Total	46	\$1,337,714	42	\$228,662	164	\$3,095,885

Source: Murray County Ag/Solid Waste Department

Above is a summary of the Ag BMP loans the Murray County Ag/Solid Waste Department has issued since 2000.

Objective A2: Promote Ag Best Management Practices; complete Level 3 feedlot inventory.

- Conducted yearly meetings with the township officials to discuss Ag BMP's.
- Set up a booth at the County Fair to discuss feedlot registrations.
- Inspected 7% of all registered feedlots per year.
- Conducted yearly pit tile testing on all hog confinement units constructed since 1999.
- Provided technical assistance in distributing EQIP funds to 60 projects, and state cost share to 41 projects.
- Developed a GIS layer of feedlots on DELTA.
- Assisted 25 producers with registered feedlots to get manure management plans.

Objective A3: Address TMDL Impaired Waters.

- Sampled water in the Beaver Creek watershed in 2007 and 2008.
- Provided Technical Assistance with the Des Moines River and Rock River TMDL plans.

Objective A4: Encourage SSTS compliance; Continue septic loan program & seek additional funding.

- Upgraded 193 septic systems since 2007.
- In 2010, Murray County received a \$90,000 CWF grant for the Lime Creek SSTS Fix-up Project. This project encompasses nine homes and one elevator within the

village of Lime Creek. Of these ten systems, eight were suspected to be imminent health threats and one was suspected to be non compliant. In the summer of 2011, a large cluster/mound system was constructed to service all of the residents and the elevator. The entire project cost was \$220,000.

- Updated the County septic regulations in 2008.
- Assisted the City of Hadley with updated their sanitary sewer.
- Provided assistance to the Shetek Area Water and Sewer District in getting sewer access to areas around the lakes without sewer availability.

Objective B1: Encourage Well Head Protection planning.

- Assisted the City of Chandler with their DWSMA plan.
- Conducted yearly free Nitrate Test Clinics at the Murray County Fair.
- Monitored 65 wells each year within the County for nutrient and bacteria levels.
- Work with Red Rock and Lincoln-Pipestone Rural Water.

Objective B3: Continue assistance to seal unused wells.

- Utilized the Water Resources fair booth to promote well sealing.
- Sealed 121 wells since 2007.
- Conducted site visits to 10 farmsites to remove all hazardous waste.

Objective C1: Slow runoff to keep soil, pesticide and fertilizer on the land.

- Developed a GIS layer of all public drainage systems.
- Worked with Area II Representatives to find locations in the Beaver Creek watershed for water retention structures.
- Secured funding for the Steinman Retention Structure. Murray County has taken a proactive approach to slowing down surface water from entering the public waters. This project holds back storm water, allows sediment to settle out of the water, and allows the storm water to recharge the groundwater prior to being released. This project was completed in 2011 and has an estimated pollution reduction of 185.62 tons of sediment per year and 272.1 pounds of phosphorus reduction per year.
- Met with 28 landowners on proper lakeshore and streambank stabilization.

Objective C2: Promote conservation tillage and buffer strips; seek additional funding.

- Sent out a yearly brochure through the SWCD regarding EQIP, conservation tillage, and Ag BMP's.
- Provided incentives to enroll 368 acres of buffer strips in the Beaver Creek watershed.
- Enrolled 90 acres of marginal land into the CREP buffer strip program.

Objective C3: Move from no net loss of wetlands to active wetland restoration.

- Provided yearly technical assistance to the TEP panel by conducting 16 TEP meetings.
- Worked on reestablishing the wetlands in the Beaver Creek watershed (443.5 acres).

- Planted 169 acres of native grass filter strips around wetland basins in the Beaver Creek watershed.

The Murray County Environmental Services Office is responsible for local water management in Murray County, including facilitation of public input and convening the Murray County Local Water Management Plan Task Force. The Murray County Water Resources Department is facilitating the 2012 Update. Task Force membership currently includes:

2012 Local Water Management Plan Task Force Members

Paul Posthuma	Agriculture / SWCD
Duane Spartz	Private Business
Jon Hoyme	Shetek Area Water and Sewer Commission (SAWSC)
Larry Byers	Township Representative
Dave Kremer	Private Business
Justin Hoffmann	City of Slayton Representative/Parks Department
Jay Takle	State Park
Darrold Peck	Citizen
Howard Konkol	SWCD
Robert Koehler	Citizen
Amy Hoglin	County EDA
Jon Bloemendaal	Ag & Solid Waste Administrator
Mike Boersma	Extension Educator
Jean Christoffels	Murray County Zoning Administrator / Secretary
John Giese	County Commissioner
Robert Moline	County Commissioner
Bill Sauer	County Commissioner
Kevin Vickerman	County Commissioner
Gerald Magnus	County Commissioner
Chris Hansen	Water Resources Administrator / Water Plan Coordinator

A.1.b 2012 Public and Internal Forums

- 11/22/11 Resolution to Update Plan from County Board of Commissioners
- 01/05/12 Notice of Plan Update sent to townships and cities, adjacent counties, SWMN JPO, Heron Lake Watershed, BWSR, MPCA, DNR, EQB, MDH
- 02/08/12 Task Force met regarding update of plan and went over Agency comments
- 03/07/12 Task Force met regarding update of plan and review draft document.
- 04/04/12 Task Force met regarding update of plan and review draft document.
- 04/17/12 Reviewed plan with the Murray County Board of Commissioners.
- 05/01/12 Held a public hearing on the amended Water Plan.

A.1.c Plan Adoption and Amendment

Upon approval of this plan by the Minnesota Board of Water and Soil Resources (BWSR), Murray County has up to 120 days to pass an Adoption and Implementation Resolution. After final adoption, the plan may be amended in a similar process, by petitioning the BWSR Board, scheduling a public hearing, and sending notice to the required parties.

A.2 TMDL Impaired Waters

The federal Clean Water Act requires states to adopt water quality standards. A water body is considered “impaired” or polluted if it fails to meet these standards. The Act requires the state to conduct a Total Maximum Daily Load (TMDL) study to identify point and non-point sources of each of these pollutants. MPCA and other agencies are working to reduce impairments in these waters. Statewide in 2006, there were 2,274 impairments listed on 1,304 waters. Please see the table below for the updated list of 2012 impaired waters within Murray County. Priorities will be placed on the Rock River and Des Moines River Watersheds for sampling over the next 5 years.

Clean Water Act Section 303 [d] List (Draft 2010) of Impaired Waters in the County

Streams

Assessment Unit	ID	Impaired Use	Impairment Cause	Impairment Status
Beaver Creek: CD 20 to Des Moines R	07100001-503	AqRec	Fecal Colicorm	TMDL Approved
Beaver Creek: CD 20 to Des Moines R	07100001-503	AqLife	Turbidity	TMDL Approved
County Ditch 20: Headwaters to Beaver Creek	07100001-504	AqRec	Fecal Colicorm	TMDL Approved
Des Moines River: Beaver Creek to Lime Creek	07100001-546	AqRec	Fecal Colicorm	TMDL Approved
Des Moines River: Beaver Creek to Lime Creek	07100001-546	AqLife	Turbidity	TMDL Approved
Des Moines River: Lime Creek to Heron Lake Outlet	07100001-533	AqRec	Fecal Colicorm	TMDL Approved
Des Moines River: Lime Creek to Heron Lake Outlet	07100001-533	AqLife	Turbidity	TMDL Approved
Des Moines River: Lake Shetek to Beaver Creek	07100001-545	AqLife	Turbidity	TMDL Approved
Dutch Charlie Creek: Headwaters to Highwater Creek	07020008-518	AqLife	Fishes Bioassessments	TMDL Required
Dutch Charlie Creek: Headwaters to Highwater Creek	07020008-518	AqLife	Turbidity	TMDL Required
Jack Creek, North Branch: Headwaters to Jack Creek	07100001-505	AqLife	Turbidity	TMDL Approved
Lake Shetek Inlet: Headwaters to Lake Shetek	07100001-502	AqRec	Fecal Colicorm	TMDL Approved
Lime Creek: Lime Lake to Des Moines River	07100001-535	AqRec	Fecal Colicorm	TMDL Approved
Lime Creek: Lime Lake to Des Moines River	07100001-535	AqLife	Turbidity	TMDL Approved
Lower Lake Sarah Outlet: First Unnamed Creek on Lake Sarah Outlet Stream to Lake Shetek Inlet	07100001-508	AqRec	Fecal Colicorm	TMDL Approved
Pell Creek: Headwaters to T109 R38W S29, east line	07020008-535	AqLife	Turbidity	USEPA Review
Plum Creek (Judicial Ditch 20A): Headwaters to Cottonwood River	07020008-516	AqRec	Fecal Colicorm	TMDL Required
Plum Creek (Judicial Ditch 20A): Headwaters to Cottonwood River	07020008-516	AqLife	Turbidity	TMDL Required
Redwood River: Headwaters to Coon Creek	07020006-505	AqLife	Fishes Bioassessments	TMDL Required
Redwood River: Headwaters to Coon Creek	07020006-505	AqRec	Fecal Colicorm	TMDL Required
Redwood River: Headwaters to Coon Creek	07020006-505	AqCons	Mercury in Fish Tissue	TMDL Approved
Unnamed Creek: Unnamed Creek to Lake Shetek	07100001-519	AqRec	Fecal Colicorm	TMDL Approved
Unnamed Creek: Unnamed Creek to Unnamed Creek	07100001-517	AqRec	Fecal Colicorm	TMDL Approved
Upper Lake Sarah Outlet: Lake Sarah to Unnamed Creek	07100001-513	AqRec	Fecal Colicorm	TMDL Approved

Clean Water Act Section 303 [d] List (Draft 2010) of Impaired Waters in the County, continued

Lakes

Assessment Unit	ID	Impaired Use	Impairment Cause	Impairment Status
Bloody	51-0040-00	AqRec	Nutrient/Eutrophication Biological Indicators	TMDL Required
Currant	51-0082-00	AqRec	Nutrient/Eutrophication Biological Indicators	TMDL Required
First Fulda	51-0021-00	AqRec	Nutrient/Eutrophication Biological Indicators	TMDL Required
Lime	51-0024-00	AqRec	Nutrient/Eutrophication Biological Indicators	TMDL Required
Sarah	51-0063-00	AqRec	Nutrient/Eutrophication Biological Indicators	TMDL Required
Shetek	51-0046-00	AqRec	Nutrient/Eutrophication Biological Indicators	TMDL Required
Talcot	17-0060-00	AqRec	Nutrient/Eutrophication Biological Indicators	Proposed Impairment Under USEPA Review

Wetlands

Assessment Unit	ID	Impaired Use	Impairment Cause	Impairment Status
Unnamed	51-0124-00	AqLife	Aquatic Macroinvertebrate Bioassessments	Proposed Impairment Under USEPA Review
Unnamed	51-0128-00	AqLife	Aquatic Macroinvertebrate Bioassessments	Proposed Impairment Under USEPA Review
Unnamed	51-0128-00	AqLife	Aquatic Plant Bioassessments	Proposed Impairment Under USEPA Review
Unnamed	51-0124-00	AqLife	Aquatic Plant Bioassessments	Proposed Impairment Under USEPA Review

B. Goals and Objectives to Address Priority Concerns

Goals and Objectives for local water management were selected by the Task Force based on the selected priority concerns. **Goals** are general statements that clearly communicate **what is to be accomplished** over the long-term to address the priority concerns. Goals are achievable in a reasonable period of time. **Objectives** state **how the goal will be accomplished** by breaking it down into smaller, more specific measures that will be taken. Objectives are **MEASURABLE**.

Priority Concern A. Improve Surface Water Quality.

Goal A: Prevent further degradation of stream and lake water quality, with a priority for Des Moines River and Rock River watersheds.

Objective A1: Promote land use practices that protect surface water quality.

Objective A2: Promote Ag Best Management Practices; complete Level 3 feedlot inventory.

Objective A3: Address TMDL Impaired Waters.

Objective A4: Encourage SSTS compliance; Continue septic loan program & seek additional funding.

Proposed feedlot upgrade sites:

- Feedlot, NW ¼, Section 35 Chanarambie Township, Beaver Creek Watershed
- Feedlot, NW ¼, Section 26, Chanarambie Township, Beaver Creek Watershed
- Feedlot, NE ¼, Section 23, Bondin Township, Heron Lake Watershed

Objective A3: Address TMDL Impaired Waters.

Actions:

- A3.a Monitor lakes in July on a three year schedule within county with public accesses to get baseline data. The lakes that would be monitored in 2012 include: Currant Lake, Lake Wilson, Summit Lake, Round Lake, and Iron Lake. The lakes that would be monitored in 2013 include: Lake Sarah, Lake Shetek, Fox Lake, Bloody Lake, and Fremont Lake. The lakes that would be monitored in 2014 include: Fulda Lake, Lime Lake, Lake Louisa, Buffalo Lake, and Corabelle Lake. Parameters tested are nitrate-nitrite, ammonia nitrogen, total phosphorus, soluble reactive phosphorus, kjeldahl nitrogen, total suspended solids, dissolved oxygen, temperature, and conductivity.
Who: ESO, MNDNR, MPCA When: 2012-2017 Cost: \$20,000
- A3.b Provide technical assistance for the West Fork Des Moines River and Heron Lake TMDL Implementation Plan.
Who: ESO, SWCD, HLWD, MPCA When: 2012-2017 Cost: Inkind
- A3.c Provide technical assistance for the Rock River Fecal Coliform and Turbidity TMDL Implementation Plan by providing input and help with their long-term, effectiveness, yearly, and milestone water sampling.
Who: ESO, SWCD, MPCA When: 2012-2017 Cost: Inkind
- A3.d Provide technical assistance to help develop the Cottonwood River Fecal Coliform/E.coli TMDL Implementation Plan.
Who: ESO, SWCD, MPCA When: 2012-2017 Cost: Inkind
- A3.e Provide technical assistance to help develop the Redwood River Fecal Coliform/E.coli TMDL Implementation Plan.
Who: ESO, SWCD, MPCA When: 2012-2017 Cost: Inkind
- A3.f Provide technical assistance to help with the Redwood and Cottonwood River Turbidity TMDL Study.
Who: ESO, SWCD, MPCA When: 2012-2017 Cost: Inkind

- B1.e Monitor 71 wells throughout the County for nutrient and bacteria levels. On even numbered years, 41 wells are tested. On odd numbered years, 31 wells are tested. These wells vary in depth as to get a representative sample of different aquifers within the County.
Who: ESO, MN EXTENSION When: 2012-2017 Cost: \$4,800 per year
- B1.f Create a GIS layer of wellhead protection areas throughout the County.
Who: ESO When: 2012-2017 Cost: Inkind
- B1.g Continue to cooperate with Lincoln-Pipestone and Red Rock Rural Water on the expansion of the rural water systems and advise them about County programs that will help manage potential contamination sources.
Who: ESO, RRRW, LPRW When: 2012-2017 Cost: Inkind
- B1.h Work with cities that have vulnerable areas within their drinking water supply management areas to sign up land into permanent buffer easements.
Who: ESO, RRRW, LPRW, MDH When: 2012-2017 Cost: \$20,000

Objective B2: Work to expand access to public water supplies.

Actions:

- B2.a Assist Rural Water suppliers with water exploration within the County.
Who: ESO, RRRW, LPRW When: 2014-2017 Cost: \$2,500
- B2.b Promote water conservation yearly at the Murray County Fair by using existing materials and resources.
Who: ESO, RRRW, LPRW When: 2012-2017 Cost: \$1,500

Objective B3: Continue assistance to seal unused wells.

Actions:

- B3.a Utilize County Fair exhibits and semi-annual newspaper advertisements to promote the proper well protection/abandonment.
Who: ESO When: 2012-2017 Cost: \$150 per year
- B3.b Prevent contamination of groundwater aquifers through the sealing of 25 unused wells per year.
Who: ESO When: 2012-2017 Cost: \$16,000 per year
- B3.c Assist 15 landowners over 5 years with proper farm site abandonment and demolition by making sure all storage tanks are removed, wells are sealed, and hazardous waste is disposed of prior to demolition.
Who: ESO When: 2012-2017 Cost: \$1,250

C.3 Priority Concern C. Stormwater Retention.

Goal C: Prevent soil erosion through comprehensive drainage management throughout Murray County, with a primary priority for the Beaver Creek watershed, and a secondary priority for the Shetek, Rock River, and Heron Lake watersheds.

Objective C1: Slow runoff to keep soil, pesticide and fertilizer on the land.

Actions:

- C1.a Improve the GIS layer of all public drainage systems and include: system name, watershed size, outlets, date established, system type, repair history, and improvement history.
Who: ESO, AUDITORS OFFICE, BWSR When: 2012-2015 Cost: \$25,000
- C1.b Assist producers in applying for cost share opportunities for conservation practices by sending out yearly SWCD newsletters describing the State Cost Share programs. Advertisements are also place in the Tri-County News.
Who: ESO, BWSR, NRCS, SWCD When: 2012-2017 Cost: In-Kind
- C1.c Seek additional funding for water retention structures within the Beaver Creek watershed.
Who: ESO, SWCD, USDA, Area II When: 2012-2017 Cost: \$250,000
- C1.d Meet with 15 landowners per year and educate them on proper lakeshore and stream bank stabilization practices. Most of these landowners live around Lake Shetek and Lake Sarah.
Who: ESO, MN DNR When: 2012-2017 Cost: \$5,000

Proposed bank stabilization project:

- Bank Stabilization, Kuehl’s Point, SE ¼, Section 2, Mason Twsp., Lake Shetek Watershed, 500 lineal feet

- C1.e Seek additional funding for stabilization practices for the stream banks of Beaver Creek.
Who: ESO, SWCD When: 2012-2017 Cost: \$500,000

Proposed streambank stabilization project:

- Bank Stabilization, NE ¼, Section 10, Slayton Township, Beaver Creek Watershed, 800 lineal feet

Objective C2: Promote conservation tillage and buffer strips; seek additional funding.

Actions:

- C2.a Promote conservation tillage, EQIP, and Ag BMP’s by contacting all County landowners through an informational bulletin sent by the SWCD. This bulletin is sent out on a yearly basis.
Who: ESO, SWCD, NRCS When: 2012-2017 Cost: \$1,000 per year
- C2.b Enroll 100 acres of marginal land into CREP buffer strip program in 5 years.
Who: ESO, SWCD When: 2012-2017 Cost: \$300,000
- C2.c Enforce the 1 rod buffer strip on all ditches that are improved within the County.
Who: ESO, SWCD When: 2012-2017 Cost: \$200,000

Objective C3: Move from no net loss of wetlands to active wetland restoration.

Actions:

C3.a Provide technical assistance to the Wetland Technical Evaluation Panel (TEP) on approximately 15 sites in 5 years to minimize the amount of wetland conversions.
Who: ESO, SWCD, BWSR When: 2012-2017 Cost: \$35,000

C3.b Work with the Des Moines River TMDL project to assist in converting 100 acres of drained wetlands over 5 years back to a vegetated state, using Wetland Reserve Program, Conservation Reserve Program and Continuous CRP.
Who: ESO, BWSR, SWCD, USFWS, HLWD When: 2007-2012 Cost: \$20,000,000

Proposed wetland restoration project:

- Great Oasis lakebed, Lowville and Skandia Townships, Beaver Creek Watershed, ~6,000 acres

Objective C4: Promote the construction of water retention structures.

Actions:

C4.a Work with local landowners, State, and Federal agencies to secure funding for retention structures throughout the County with a priority for projects in the Beaver Creek watershed.
Who: ESO, SWCD, BWSR When: 2012-2017 Cost \$2,500,000

Proposed water retention structures:

- Retention structure, NE ¼, Section 27 Chanarambie Township, Beaver Creek Watershed, ~2.0 acres
- Retention structure, SE ¼, Section 6, Cameron Township, Beaver Creek Watershed, 23.4 acres
- Retention structures, Sections 16 and 21, Cameron Township, Beaver Creek Watershed, 12.7 acres
- Retention structures, Sections 15 and 16, Cameron Township, Beaver Creek Watershed, 10.0 acres
- Retention structure, NE ¼, Section 18, Cameron Township, Beaver Creek Watershed, 13.0 acres
- Retention structure, SW ¼, Section 27, Cameron Township, Beaver Creek Watershed, 16.2 acres
- Retention structure, SE ¼, Section 22, Chanarambie Township, Beaver Creek Watershed, 12.2 acres
- Retention structure, SW ¼, Section 23, Chanarambie Township, Beaver Creek Watershed, 7.5 acres
- Retention structure, Sections 19 and 20, Mason Township, Beaver Creek Watershed, 8.0 acres
- Retention structure, SW ¼, Section 7, Slayton Township, Beaver Creek Watershed, 10.3 acres
- Retention structure, NW ¼, Section 9, Slayton Township, Beaver Creek Watershed, 2.4 acres

- Retention structure, NE ¼, Section 15 Iona Township, Des Moines River Watershed, 4.7 acres

D. Implementation Schedule of Ongoing Activities

This section identifies other local activities and programs of the Murray County Environmental Services Office and cooperators which contribute towards the goals and objectives of local water management, in addition to those under the scope of the local water management plan. There are also many other public and private efforts at the regional, state and federal levels which serve to promote the regulatory and informational goals of sound water management. These particular ongoing activities typically encompass all watersheds in the county, reaching a broad cross-section of local residents and businesses.

D.1 Priority Concern A. Improve Surface Water Quality.

- Administer and provide assistance for the State Revolving Fund for Ag BMP's.
- Continue to be a delegated County in the MPCA Feedlot Program and provide data to Elink.
- Inspect and assist producers in maintaining compliance with State rules.
- Promote and provide assistance for manure management plans and practices.
- Inspect and assist producers in maintaining compliance with County and State feedlot rules.
- Assist with testing and providing services for commercial pesticide applicators.
- Administer, permit, and inspect individual sewage treatment systems throughout Murray County.

D.2 Priority Concern B. Protect Groundwater.

- Continue to promote and provide Household Hazardous Waste Program to correctly dispose of HHW.
- Provide a collection program for waste pesticides and empty containers.
- Promote recycling and solid waste management.
- Provide electronics and appliance disposal.
- Conduct nitrate testing at the County Fair.
- Provide cost-share assistance for well sealing.
- Sample well water from 71 wells throughout the County.
- Continue to sample all perimeter tiles around new animal confinement structures for groundwater for contamination.

D.3 Priority Concern C. Stormwater Retention.

- Provide educational assistance to landowners for proper lakeshore stabilization.
- Provide funding for special projects, i.e. bank stabilization.
- Continue to administer Wetland Conservation Act.
- Promote technical assistance for conservation programs.
- Promote the SWCD tree program.
- Promote and help facilitate the CREP program.

D.4 Additional Environmental Services Programs.

- Assist landowners with land use permits and zoning regulations.
- Facilitate and track biological control of noxious weeds.
- Educate Townships on the noxious weed program.
- Help fund the Heron Lake Ecology Bus for the schools of Fulda and Slayton.
- Help fund the Heron Lake Ecology Bus for the Murray County Fair.
- Help fund the Southwest Minnesota 4-H Day Camp.
- Help fund the Southwest Minnesota Environmental Fair.
- Conduct yearly soil fertility tests on 9 sites throughout the County.
- Participate in the State's rainfall monitoring program.
- Administer Shoreland and Floodplain Management Program.

E. Appendix

E.1 Acronyms Used

Ag BMP's – Agricultural Best Management Practices
Area II – Area II Minnesota River Basin Projects, Inc.
BWSR – Board of Water and Soil Resources
CDP – Census Designated Place
CWP – Clean Water Partnership
DNR – Department of Natural Resources
DWSMA – Drinking Water Supply Management Area
ESO – Environmental Services Office
GIS – Geographic Information Systems
HLWD – Heron Lake Watershed District
ISTS – Individual Septic Treatment System (see SSTS)
LCMR – Legislative Commission on Minnesota Resources
L&CRWS – Lewis & Clark Rural Water System
LPRWS – Lincoln-Pipestone Rural Water System
MDA – Minnesota Department of Agriculture
MDH – Minnesota Department of Health
MPCA – Minnesota Pollution Control Agency
NRCS – Natural Resources Conservation Service
PCSD – Priority Concerns Scoping Document
PF – Pheasants Forever
RCRCA – Redwood-Cottonwood Rivers Control Area
RRRW – Red Rock Rural Water System
SAWSC – Shetek Area Water and Sewer Commission
SSTS – Sub-Surface Treatment System
SWCD – Soil and Water Conservation District
TMDL – Total Maximum Daily Load
USCOE – United States Corp of Army Engineers
USDA – United States Department of Agriculture
USFW – United States Fish and Wildlife
WRP – Wetland Reserve Program

E.2 Definitions

High Priority Erosion Problems. “High priority erosion problems” means areas where erosion from wind or water is occurring equal to, or in excess of, 2 X T tons per acre per year or is occurring on any area that exhibits active gully erosion or is identified as high priority in the comprehensive local water management plan.

High Priority Water Quality Problems. “High priority water quality problems” means areas where sediment, nutrients, chemicals, or other pollutants discharge to Department of Natural Resources designated protected waters or to any high priority waters as identified in a comprehensive local water management plan, or discharge to a sinkhole or groundwater. The pollutant delivery rate to the water source is in amounts that will impair the quality or usefulness of the water resource.